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SPECIFICATION

TITLE: UNIVERSAL PORTABLE ILLUMINATED ARTWORK MODULE

CROSS-REFERENCE TO RELATED APPLICATIONS

This application is entitled to the benefit of Provisional Patent Application Ser. #60/211,199 filed 2000, June 13.

This application is benefited by dating of previous filing of Provisional Patent Application, Application No. 60/211,199 Filed 06/13/00 by inventor Edgar M. Nash.

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH AND DEVELOPMENT

Non-Applicable

No change

BACKGROUND OF INVENTION

This invention relates to back-lighted device to display artwork, specifically to a flexibly portable embodiment having a wide multiplicity of new art media applications. An exhaustive scrutiny of prior art discloses no portable apparatus securable into any display device of choice, such as a picture frame, simply, quickly and effectively. Prior art does not enable direct application of an artwork onto a re-usable platen

coincidentally while said platen is mounted onto a back-lighted display device. Nor does prior art support multiple new art forms as taught, enabled and encouraged by present invention.

From ancient times to the present, artful depictions, especially those held in frames, have remained lifeless and still. Inventor now brings into focus new art forms that until now have been unexplored, but bear incredible utility, and teaches innovative artful combinations of lighting, artworks production and display (including within picture frames) that promise the release of glorious beauty not attainable in the past. Present invention introduces entirely new and vigorous art expressions into a field occupied and compromised by old art that failed to recognize the many possible art innovations hitherto lying dormant in a very fertile domain.

DESCRIPTION OF THE RELATED ART

[No text in original application]

A thorough scrutiny of prior art failed to bring into view any inventions that addressed any of the several claims held in the present invention. Eight examples of prior art are listed in the Information Disclosure Statement, none of which approximates the bright claims made in this application. Additional patents scrutinized include US-1,888,406 (Payberg), US-3,680,238 (Arnold), US-5,237,766 (Mikolay) and US-6,0989,326 (Campbell, 111), all of Classification 40-564.

Payberg teaches a display card and framework to hold that card. The card is primary to this invention, and severely limits its utility other than as an illuminated sign of some type. The "framework" is secondary, and only illuminates the display card. No mention whatever is made of the use of this item for display of artworks as such. My invention does not impinge upon Payberg in any manner.

Arnold also teaches a sign display with variations only of the sign itself, but no mention re use of the device for display of artworks. Nor are any variations of lighting addressed. My invention does not conflict in any manner with Arnold.

Mikolay also relates only to the invention being used as a sign used to simulate neon illumination. This invention does not claim any configuration or use as an artwork display device. The independent claim says it is "an illuminated sign". My invention does not infringe in any manner with Mikolay.

Campbell claims to be a "light fixture for displaying a message". The "message" is defined as a sign. Further, the light source(s) are mounted on a panel separate from the light box, and is termed "a lighting assembly panel" inserted into the light box. The sign panel(s) are interchangeably inserted into a "sign slot" and not disposed to be displayed in a display frame such as a picture frame. This is not an artwork display unit, and only a commercially-oriented device. My invention does not intrude on any part of Campbell claims.

No prior art examined by inventor enjoys varying applications, at best. My invention carries a multiplicity of employments, largely at the discretion of the artist, or discretion of the viewer - which in itself is unique.

OBJECTS AND ADVANTAGES

It is the object of present invention to enable multiple innovative new art modes permitted by the basic Universal Portable Illuminated Artwork Module and to permit such diversification easily through classically elementary means. Present invention usefully combines widely diversified elements and features un-addressed by prior art: Portability of Module assembly permits endless substitution of any display device such as a picture frame of choice; Simple and inexpensive structure; Optimal diffusion of light permitting no bright spots or shadows on the artwork; A wide variation of light sources making possible exceptional artwork effects heretofore unattainable; Endless substitution of platen-supported artwork either of artwork applied directly to or overlaying the platen;; Simple substitution of platen artwork including work that may be a compositly-layered buildup as in a collage work; A Module assembly that is light in weight, and inexpensive to produce using several elements widely available commercially.

It is the object of present invention to enable multiple innovative new art modes permitted by flexible adaptability of the basic Universal Portable Illuminated Artwork Module and to permit such diversification easily through classically elementary means. Present invention usefully combines widely diversified elements and features that are not addressed in prior art: (1) Portability of Module assembly permits endless attachment to or onto separate display devices such as picture frames of choice; and (2) Simple and inexpensive structure; and (3) Optimal diffusion of light, even to the extent of interposing a light-diffusing device proximate to the back of the platen, permitting no bright spots or shadows on the artwork displayed; and (4) A wide variety of light source categories to play upon artwork displayed, used individually or in numerous combinations to enable a wide spectrum of variably-adjustable lighting effects heretofore unattainable; and (5) Simple substitution of multiple platens; and (6) Platen-supported artwork applied directly into, behind or overlaying Platen; and (7) Many genres of platen artwork even including depictions that may be compositely-layered as in collage works; and (8) A Module assembly that is light in weight and inexpensive to produce combining elements widely available commercially.

SUMMARY

Present invention permits exceptional flexibility and creativity by means of a simple and inexpensive embodiment means to backlight any translucent planar artwork, being a completely new and unique art medium utilizing many variations of the platen itself as the artwork, encouraging talented artists to express artistic dimensions heretofore not possible, and for which many new and innovative platens, lighting and sound effects may be controlled, mixed and/or combined to produce brilliant and delightful displays. An innovative artist's dream!!

Present invention encourages exceptional artistic flexibility and creativity by means of a simple and inexpensive but widely variable light-box backlighting a translucent or transparent platen supporting artwork to be displayed, all being a completely new, unique and important art medium utilizing many variations of the platen itself. The invention permits expression of artistic dimensions made possible by innovative

employment of platen/lighting variations that themselves are dimmable, coupled with sound to control production of displays uniquely brilliant and delightful to the viewer.

DESCRIPTION OF THE INVENTION - MAIN EMBODIMENT

Present invention is compatible to embodiment in many differing modes, and while there will be described hereinafter the preferred embodiment of the invention and options thereto, there is no implication that there are limitations to any ramifications suggested by art taught herein.

No change.

Referring to Assembly No. 1, a system overview of preferred embodiment of present invention, it is disclosed that there are but FOUR PRIMARY ELEMENTS (Parts No's. 10, 11, 12 and 13) comprising my Universal Portable Illuminated Artwork Module ("Module").

Referring to Assembly No. 1, a system overview of preferred embodiment of present invention, it is disclosed that there are but four primary elements (Parts Nos. 10, 11, 12 and 13) comprising the invention.

1) ARTWORK DISPLAY PLATEN ("Platen"), Part No. 10.

Said Platen will sustain the artwork to be displayed and will match dimensions of the artwork proper, in preferred embodiment will be a clear and rigid sheet of plastic of sufficient strength and thickness to support any artwork such as a transparency and dimensioned to fit into and be contained within recessed front inner edge of artwork Contain Frame ("Frame"), Part No. 11. Said Platen ideally also may be a sheet of glass, ceramic, metal, wood, plaster, etc., or any other material answering its required dimensions and physical requirements.

Platen in preferred embodiment is secured within the face of Artwork Containment Frame ("Frame"), Part No. 11, by means of any simple rotatable "clip" of sheet metal,

plastic or any other suitable material, or may be secured by means of any of numerous devices dedicated to such utility, such as spring clamps.

A separate artwork not depicted directly onto or into the Platen is attached to said platen by means of simple rotatable slips made of metal, plastic, ceramic and the like, sized to accommodate varied thicknesses of separate artwork, or by any other attachment means such as clamps, slide latches, spring clamps or any other such devices well known to the art.

Said Platen sustains artwork to be displayed and optimally matches dimensions of the artwork proper. In preferred embodiment it is a clear and rigidly planar sheet of plastic sufficiently strong to support any artwork displayed, dimensioned to fit into or onto the front edge of the Artwork Containment Frame ("Frame"), Part No. 11. Said Platen optionally is a sheet of glass, ceramic, metal, wood, plaster, or any other material answering its required dimension and physical requirements. Options include a platen having curvilinear surface on one or both sides, such surface configuration is concave, convex or compoundly-curvilinear as required for display of unique and non-planar artwork.

Said Platen sustains artwork to be displayed and optimally matches dimensions of the artwork proper. In preferred embodiment it is a clear and rigidly planar sheet of plastic sufficiently strong to support any artwork displayed, dimensioned to fit into or onto the front edge of the Artwork Containment Frame ("Frame"), Part No. 11. Said Platen optionally is a sheet of glass, ceramic, metal, wood, plaster, or any other material answering its required dimension and physical requirements. ~~Options include a platen having curvilinear surface on one or both sides, such surface configuration is concave, convex or compoundly-curvilinear as required for display of unique and non-planar artwork.~~

Platen in preferred embodiment is secured within the face of Artwork Containment Frame ("Frame"), Part No. 11, by means of any simple rotatable "clip" formed of sheet metal, plastic or other suitably rigid material. Optionally, it is secured by means of any

one or combination of numerous devices dedicated to such utility, such as spring clamps.

A separate artwork not applied directly onto or into Platen in preferred embodiment is attached to Platen by means of simple rotatable clips made of metal, plastic, ceramic and the like sized to accommodate varied thicknesses of said artwork. Options are attachment means such as, clamps, slide latches, spring clamps or other such devices.

A separate artwork not ~~applied~~ depicted directly onto or into Platen in preferred embodiment is attached to Platen by means of simple rotatable clips made of metal, plastic, ceramic and the like sized to accommodate varied thicknesses of said artwork. Options are attachment means such as clamps, slide latches, spring clamps or other such devices.

ARTWORK CONTAINMENT FRAME ("Frame"), Part No. 11

In preferred embodiment Frame typically retains edges of Platen, and is assembled of sectionally mitred lengths of wooden moulding. It is obvious that material used also may be plastic, metal, ceramic, glass or any organic/inorganic composition of durable and machinable character. The section of Frame is modified as required for functionality relating to thicker sheets of work to be displayed, or as required by more than one Light Diffusion Sheet ("Sheet") (Part No. 12), or as required to accommodate heavier and larger artworks, or any other causitive reason(s).

In preferred embodiment Frame has all inner surfaces finished in a light-reflective media such as paint, metallic paint, silvering (for clear, transparent materials), tin plating, or any other means fitted to the task of effectively reflecting light from all inner portions of Frame. This coating applies especially to inner "bevelled" sloping faces (See Fig. 2-B).

In preferred embodiment Frame typically securely retains edges of Platen and is assembled of mitred lengths of wood moulding. It is obvious that material used also is plastic, metal, ceramic, glass or any organic/inorganic composition of durable and

machinable character. The cross-sectional strength of Frame is modified as required for functionality relating to considerations imposed by thicker sheets of artwork to be displayed or as required by multiple Light Diffusion Sheets ("Sheet") Part No. 12, or as required to accommodate heavier, larger or dimensionally unique artworks, or any other reason(s).

In preferred embodiment all inner surfaces of Frame are coated by a light-reflective media such as paint, metallic paint, silvering, tin plating or any other means fitted to the task of effectively reflecting and diffusing light. This coating treatment applies especially to inner beveled surfaces immediately forward of Light Diffusion Screens. (See Fig. 2-B).

In preferred embodiment all inner surfaces of Platen are coated by a light-reflective media such as paint, metallic paint, silvering, tin plating or any other means fitted to the task of effectively reflecting and diffusing light. ~~This coating treatment applies especially to inner beveled surfaces immediately forward of Light Diffusion Screens.~~ (See Fig. 2-B).

LIGHT DIFFUSION SCREEN(S) ("Screen") Part No. 12

In preferred embodiment Screen is dimensioned to fit into and be confined in back surface of Frame within recessed inner ledges therein and made of any clear sheets configured to disperse widely light emissions from any light source within Module. Acrylic is preferred material. Such Sheets have been in use for many years on ceiling-mounted fluorescent light boxes. Said sheets are secured within back of Frame, upon recessed inner ledges by means of four or more flat-head screws as required for service in metal, wood, plastic, etc. A plurality of screens may be employed if desired, in order to more thoroughly scatter light from Ventilated Light Box.

In preferred embodiment Screen is dimensioned to fit into and be confined within back surface of Frame, upon recessed inner ledges herein, in multiple thicknesses if desired. Screen is formed of any clear or translucent material, colored or clear configured to widely disperse toward front of Module all light emissions from any light source to back

of Screen. Preferred material is Acrylic. Such sheets have been in use for many years in ceiling-mounted fluorescent light boxes, but their employment in present invention does not run concurrent to any claimed use in Prior Art inasmuch as configuration of inner reflecting surfaces of Frame forward of their positioning renders their use that of material utility.

In preferred embodiment Screen is dimensioned to fit into and be confined within back surface of Frame, upon recessed inner ledges ~~herein~~ therein, in multiple thickness if desired and made of any clear sheets configured to disperse widely light emissions from any light source within Module. Screen is formed of any clear or translucent material, colored or clear configured to widely disperse toward front of Module all light emissions from any light source to back of Screen. Preferred material is Acrylic. Such sheets have been in use for many years in ceiling-mounted fluorescent light boxes, ut their employment in present inventions does not run concurrent to any claimed use in Prior Art inasmuch s configuration of inner reflecting surfaces of frame forward of their positioning renders their use that of material utility.

Further, the exact positioning of one or multiple screens contiguous to back of Platen is not duplicated elsewhere. Nor is the new and novel employment of Screen as the platen itself and upon which artwork is directly depicted on either or both sides.

VENTILATED LIGHT BOX ("Box") Part No. 13

Preferred embodiment of Box is formed of a clear, rigid, heat-tolerant plastic such as acrylic, exterior surfaces of which have been made light-reflective inwardly by means of silvering, metallic paint, silver leaf, paint or any other means of reflective character.

Sides of Box slope inwardly and backwardly at a twenty-degree angle (which optionally may be altered as conditions warrant). Sides and back panel may be dished concavely outward. Top and bottom sloped surfaces are pierced by two holes each, of approximately 3/4" diameter, for ventilation purposes, the holes being proximate to the back of the Box. Additional such holes may be provided for larger units or for those supporting multiple light sources if such sources emit heat. Side sloped surfaces of Box

also are pierced by holes for installation of light sources, with hole diameters determined by requirement of light sources selected. Preferred light sources are incandescent and fastened into sockets such as Surface Mounted Cleat Lampholder as provided commercially by Levitton Mfg. Co.

Box is secured into back of Frame by means of Light Box Attachments Flanges (Part No.18) by preferred means of 8 flat-head screws passed through Light Box Attachment Flange Screw Holes. Then passing through edges of Light Diffusion Screen(s) and thus into Artwork Containment Frame proper.

4) LIGHT BOX ("Box") Part No. 13

Preferred embodiment of Box is formed of clear, rigid, heat-tolerant plastic, the exterior surfaces of which have been made inwardly light-reflective by means of silvering, metallic paint, silver leaf, paint or any other means of reflective character. Sides of Box slope inwardly at an angle of exactly twenty degrees, and in preferred embodiment are dished concavely inward. Such tapering is known to the art, however its employment in conjunction with light bulbs of any type being set into the tapered sides and reflectively half-coated to direct all their light strength at an angle backward at the reflective rear surface of Box renders such tapering necessary to proper and best placement of such uniquely treated light sources. Therefore in such combination it is unique to this invention and thus is proprietary.

Preferred embodiment of Box is formed of clear, rigid, heat-tolerant plastic, the exterior surfaces of which have been made inwardly light-reflective by means of silvering, metallic paint, silver leaf, paint or any other means of reflective character. Sides of Box slope inwardly at an angle of ~~exactly~~ twenty degrees and backwardly at a twenty-degree angle (which optionally is altered as conditions warrant), and in preferred embodiment are dished concavely inward. Such tapering is known to the art, however its employment in conjunction with light bulbs of any type being set into the tapered sides and reflectively half-coated to direct all their light strength at an angle backward at the reflective rear surface of Box renders such tapering necessary to

proper and best placemen of such uniquely treated light sources. Therefore in such combination it is unique to this invention and thus is proprietary.

Top and bottom sides of Box are pierced by two or more air-ventilation holes proximate to back of Box. Sockets or other mountings for light sources situate in sides of Box are installed in openings therein provided, the preferred light sources being incandescent. (See Description and Operation of Alternate Embodiments). Box is secured into back of Frame by means of flat-head screws passed through Light Box Attachment Flange Screw Holes pierced through Light Box Attachment Flanges (Part No. 18), then through matching holes drilled in edges of Screens and thus turned into Frame proper.

5) VENTILATION FLUES ("Flues") - Part No. 14

Flues are designed to inhibit exit of light from open end of Flue, and in preferred embodiment are formed of dark plastic heat-tolerant formable fine mesh having openings between cross-filaments sufficiently small as to suppress exit of light. Such Flues are secured to body of Box by means of heat-resistant cement or adhesive.

VENTILATION FLUE ("Flue") Part No. 14

Flue is designed to inhibit exit of light, particularly from open end, and in preferred embodiment is formed of heat-tolerant, rough but formable dark plastic screening of sufficient mesh density to discourage exit of light. Flues are secured to Box by heat-resistant cement or adhesive, soldering or other sufficient means.

LIGHT SOURCE Part No. 15

Light sources in preferred embodiment are conventional incandescent bulbs, available commercially. Conventional light sources shown (Fig. 3-A) are coated on one entire side, covering half the "bulb" with a reflective media such as silvering, metallic paint, ceramic, or any other media tolerant of heat, with coated side reflecting light from light source backward and sideward without allowing viewer to be distracted by direct light from light sources.

Light source in preferred embodiment is conventional incandescent bulbs, available commercially. Conventional light source shown (Fig. 3-A) is reflectively coated internally or externally on half its circumference to reflect its entire strength out of one side, only. Preferred reflective coating is mirror-silvering, however, options include metallic paint, ceramic or other effective media. A further option is light source having light-emitting side formed of clear material and opposing side of metallic or other suitable material. Light source is turned to direct all emitted light backward and sideward onto reflecting panels of Box, thus preventing direct light exit toward viewer.

Light source in preferred embodiment is conventional incandescent bulbs, available commercially. Conventional light source shown (Fig. 3-A) is reflectively coated internally or externally on half its circumference to reflect its entire strength out of one side, only. Preferred reflective coating is mirror-silvering, however, options include metallic paint, ceramic or other effective media. ~~A further option is light source having light-emitting side formed of clear material and opposing side of metallic or other suitable material.~~ Light source is turned to direct all emitted light backward and sideward onto reflecting panels of Box, thus preventing direct light exit toward viewer.

7) LIGHT SOURCE SOCKET Part No. 16

Socket in preferred embodiment is Levitton Mfg. Co. surface mounted cleat lamp-holder, sized for small-base light bulbs supplying up to 125 watts of illumination.

Socket in preferred embodiment is Levitton Mfg. Co. surface-mounted cleat lamp-holder, sized for small base light bulbs using up to 125 watts of power. Escape of light through holes provided for light sockets or mountings is prevented by proper installation of said devices.

8) POWER CORD Part No. 17

Commercially available power cords in preferred embodiment supplying light sources are concealed within nipples or other such devices, and gathered at base of Box to a

single cable connected to power outlet. Holes provided for light source bases are blocked by said light source devices so no light may exit.

In preferred embodiment, commercially available power cords supplying light sources are concealed within nipples or other such hollow devices, and gathered into a single cable connected to power outlet.

9) LIGHT BOX ATTACHMENT FLANGE Part No. 18

In preferred embodiment Flange rigidly secured Box to Frame as described herein, and fastened by means of 8 flat-head screws (of type determined by service required, such as into wood, metal, plastic, ceramic, etc.). Upon assembly of Module, Flange is placed atop edges of Light Diffusion Screen(s) within recessed back of Artwork Containment Frame, with fastening screws penetrating Screen(s) into body of Frame.

In preferred embodiment Flange rigidly secures Box to Frame and fastened by means of flat-head screws. Upon assembly of Module, Flange is placed on edges of Screen(s) within recessed back edges of Frame, with fastening screws penetrating Screen(s) into body of Frame

Part No. 19 - LIGHT BOX ATTACHMENT FLANGE SCREW HOLES

Need no operating directions, as their function is apparent.

10) LIGHT BOX VENT HOLE (Part No. 20)

Vent holes are placed as directed in prior description, in order to admit cool air at bottom of Box and vent warm air upward and out through vent holes in top of Box. Such convection is well known to the art and needs no instruction.

LIGHT BOX VENTILATION HOLE Part No. 20

Ventilation holes are located in order to admit ambient air at bottom of Box and to encourage venting of heated air at top of Box.

11) COMPRESSIBLE SPACER - Part No. 21

Spacer is included in preferred embodiment only in event depth of mounting ledge for Artwork Display Platen within inner edge of Artwork Containment Frame exceeds thickness of Platen. Spacer is any conventional compressible "packing" or "weatherstripping" of section meeting measure of space to be filled, in order to allow pressure to be exerted between periphery of artwork and mounting surface of ornamental (picture) frame. Such pressure prevents light exit toward viewer.

Spacer is included in preferred embodiment simply in event the depth of mounting ledge for Platen within inner edge of Frame exceeds thickness of Platen. Spacer is any conventional compressibly elastic material available commercially. Spacer permits exertion of sufficient pressure to prevent light exit between outer periphery of artwork and mounting surface of separate ornamental exhibiting device such as a picture frame.

12) ARTWORK CLAMP - Part No. 22

Clamp shown in preferred embodiment is simple, rotatable "clip". Said clip may be obtained commercially or fabricated of sheet metal to fit.

In preferred embodiment Clamp is simple, rotatable "clip" readily available commercially, or fabricated of sheet metal to fit.